

independent electrodes, wherein a signal associated with the evoked response is sensed between at least one of said atrial electrodes and said ventricular electrodes; and

(e) ~~at least one coupling capacitor that attenuates [together attenuate] afterpotentials which result from [due to] the application of the pacing stimulus to the heart by said cardiac pacing system, said capacitor having a reduced capacitance and being electrically coupled to said pacing charge storage capacitor of said pacing circuit.~~

In Claim 23, line 2, please delete "means" and insert therefore --circuit--.

In Claim 30, line 2, please delete "means" and insert therefore --circuit--.

REMARKS

This Amendment and Response is submitted in response to the Office Action mailed March 17, 2000. Claims 1 through 36 are pending. Claims 19, 23 and 30 have been amended above. Support for the amendments can be found generally throughout the specification and figures.

Examiner rejected Claims 19 through 36 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly and distinctly claim the subject matter which Applicants regard as their invention.

Applicants respectfully traverse the above rejection of the claims. Although Applicants disagree with Examiner, the claims have been amended to expedite the prosecution of this application.

Regarding to Claim 19, Examiner stated that "that together" is vague. Claim 19 no longer recites the term "together."

Regarding Claims 23 and 30, Examiner stated that "the pacing and sensing means" lacks antecedent basis. Claims 23 and 30 have been amended to replace "means" with "circuit."

Accordingly, Applicants respectfully request that the rejection of Claims 19 through 36 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Examiner rejected Claims 1, 2, 4, 11, 12, 14, 15, 19, 20, 22, 29, 30, 32, and 33 under 35 U.S.C. § 102(b) as anticipated by Silvian (U.S. Pat. No. 4,991,583).

Applicants respectfully traverse the above rejection of the claims. Although Applicants disagree with Examiner, Claim 19 has been amended to expedite the prosecution of this application.

Regarding Claim 19, Examiner stated that the use of “capacitors that together” is a broad term that does not have to mean “connected together.” Applicants have amended Claim 19 to clarify the relationship of the capacitors. Claim 19 no longer recites the term “capacitors that together.” Claim 19 now recites at least one coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Silvian does not teach or suggest a coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Therefore, a rejection under 35 U.S.C. § 102(b) is inapposite.

Regarding Claim 1, Examiner states that Claim 1 is anticipated by Silvian. Applicants respectfully direct Examiner’s attention to the 35 U.S.C. § 112, paragraph 6, means plus function format of Claim 1. Means plus function limitations should be interpreted in a manner consistent with the specification disclosure. MPEP 2182. The disclosure provides that the means for attenuating include at least one coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Silvian does not teach or suggest a coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Therefore, a rejection under 35 U.S.C. § 102(b) is inapposite.

Regarding Claims 2, 4, 11, 12, 14, 15, 20, 22, 29, 30, 32, and 33, all of which depend from Claim 1 or Claim 19. Since Claims 1 and 19 are not anticipated by Silvian, for the reasons stated above, all claims dependent from Claims 1 and 19 are also not anticipated by Silvian. Therefore, the rejection of

rejected Claims 2, 4, 11, 12, 14, 15, 20, 22, 29, 30, 32, and 33 under 35 U.S.C. § 103(a) as anticipated is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 4, 11, 12, 14, 15, 19, 20, 22, 29, 30, 32, and 33 under 35 U.S.C. § 102(b) be withdrawn.

Examiner rejected Claims 1, 2, 4, 8-15, 19, 20, 22, and 26-33 under 35 U.S.C. § 102(b) as anticipated by Silvian. Examiner suggests that Silvian shows an ECG amplifier as a sensing means. Applicants respectfully traverse the rejection. Although Applicants disagree with Examiner, Claim 19 has been amended to expedite the prosecution of this application. For the same reasons discussed above, Examiners rejection is inapposite. That is, Claim 1 includes and Claim 19 recites the limitation that at least one coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Silvian does not teach or suggest a coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Therefore, the rejection of Claims 1 and 19 under 35 U.S.C. § 102(b) over Silvian is inapposite.

Further, since Claims 2, 4, 8-15, 20, 22, and 26-33 all depend from Claims 1 or 19, their rejection under 35 U.S.C. § 102(b) over Silvian is also inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 4, 8-15, 19, 20, 22, and 26-33 under 35 U.S.C. § 102(b) as anticipated by Silvian be withdrawn.

Regarding the rejection of Claims 1, 2, 4, 8-15, 19, 20, 22, and 26-33 under 35 U.S.C. § 103(a) as obvious over Silvian in view of one of ordinary skill in the art, Examiner suggests that Silvian discloses the claimed invention except for sensing the evoked response between a ventricular and an atrial electrode and that the addition of these elements would be obvious to one skilled in the art.

Applicants respectfully traverse the rejection. In addition to the limitations cited by Examiner, the above rejected claims include the limitation that at least one coupling capacitor having a reduced capacitance electrically coupled to a pacing

charge storage capacitor. Silvian does not teach or suggest a coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. As Examiner knows, obviousness under 35 U.S.C. § 103(a) cannot be established by combining the teachings of the prior art to produce the claimed invention when, combined, the teachings of the prior art do not teach or suggest the claimed invention. Further, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Therefore, a rejection under 35 U.S.C. § 103(a) is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 4, 8-15, 19, 20, 22, and 26-33 under 35 U.S.C. § 103(a) as obvious over Silvian be withdrawn.

Examiner rejected Claims 1, 2 16-20, and 34-36 under 35 U.S.C. § 102(e) as being anticipated by Zhu et al (U.S. Pat. No. 5,843,136). Applicants respectfully traverse this rejection of the claims. For a rejection under § 102(e) to be proper, all limitations of the claims must be found in the cited reference. Zhu et al does not teach or suggest a sensing means (or circuit) including multiple independent blanking switches corresponding to independent electrodes. As amended in Applicants' Response dated February 9, 2000, all rejected claims include this limitation. Therefore, a rejection under 35 U.S.C. 102(e) is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 2 16-20, and 34-36 under 35 U.S.C. § 102(e) as being anticipated by Zhu et al be withdrawn.

Examiner rejected Claims 1, 2 16-20, and 34-36 under 35 U.S.C. § 102(f) as being invented by Zhu et al (U.S. Pat. No. 5,843,136). Applicants respectfully direct Examiner's attention to Applicants' specification at page 11, line 29 through page 12, line 15 and elsewhere throughout the specification where Applicants' disclose a sensing means (or circuit) including multiple independent blanking switches corresponding to independent electrodes. Zhu et al does not teach or suggest a sensing means (or circuit) including multiple independent blanking

switches corresponding to independent electrodes. As amended in Applicants' Response dated February 9, 2000; all claims rejected under 35 U.S.C. 102(f) include this limitation. Therefore, Applicants did invent the claimed subject matter and a rejection under 35 U.S.C. § 102(f) is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 2 16-20, and 34-36 under 35 U.S.C. § 102(f) as being invented by Zhu et al be withdrawn.

Examiner rejected Claims 3, 5-7, 21, and 23-25 under 35 U.S.C. § 103(a) over Silvian in view of one of ordinary skill in the art, Examiner suggests that Silvian discloses the claimed invention except for sensing the evoked response between a ventricular or an atrial electrode and the pacer's can; and that the addition of these elements would be obvious to one skilled in the art. Applicants respectfully traverse the rejection. In addition to the limitations cited by Examiner, the above rejected claims include the limitation that at least one coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Silvian does not teach or suggest a coupling capacitor having a reduced capacitance electrically coupled to a pacing charge storage capacitor. Again, obviousness under 35 U.S.C. § 103(a) cannot be established by combining the teachings of the prior art to produce the claimed invention when, combined, the teachings of the prior art do not teach or suggest the claimed invention. Further, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Therefore, a rejection under 35 U.S.C. § 103(a) is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 3, 5-7, 21, and 23-25 as obvious over Silvian be withdrawn.

Examiner rejected Claims 3-5 and 21-33 under 35 U.S.C. § 103(a) as being unpatentable over Zhu et al in view of one of ordinary skill in the art, Examiner suggests that Zhu et al discloses the claimed invention except for the unipolar or bipolar sensing between atrial electrodes, ventricular electrodes and can electrodes

and that the addition of these elements would be obvious to one skilled in the art. Applicants respectfully traverse the rejection. In addition to the limitations cited by Examiner, the above rejected claims include the limitation that the sensing means (or circuit) include multiple independent blanking switches corresponding to independent electrodes. Zhu et al does not teach or suggest a sensing means (or circuit) including multiple independent blanking switches corresponding to independent electrodes. As amended in Applicants' Response dated February 9, 2000, all claims rejected under 35 U.S.C. § 103(a) include this limitation. Once again, obviousness under 35 U.S.C. § 103(a) cannot be established by combining the teachings of the prior art to produce the claimed invention when, combined, the teachings of the prior art do not teach or suggest the claimed invention.

Therefore, a rejection under 35 U.S.C. § 103(a) over Zhu et al is inapposite.

Further with regard to obviousness over Zhu et al, in Examiner's *Response to Arguments*, Examiner suggests that Zhu et al's "independent switches" could be used as blanking switches and that the limitation does not state what the switches are used for. Again, Applicants respectfully direct Examiner's attention to Applicants' specification at page 11, line 29 through page 12, line 15 and elsewhere generally throughout the specification where Applicants' disclose the blanking switches corresponding to independent electrodes such that one skilled in the art would recognize Applicants' contribution to the art. In response to Examiner's suggestion that Zhu et al's "independent switches" could be used as blanking switches, Applicant's respectfully point out Zhu et al does not teach or suggest the use of any switches as "blanking switches." In response to Examiner's suggestion that the limitation does not state what the switches are used for, Applicants respectfully point out that the "blanking switches" limitation does state what the switch is used for e.g. blanking. As Examiner understands the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. As discussed above and as implied by Examiner, Zhu et al does

not teach or suggest the use of any switches as “blanking switches.” Therefore, a rejection under 35 U.S.C. § 103(a) over Zhu et al is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 3, 5-7, 21, and 23-25 as obvious over Zhu et al be withdrawn.

Examiner rejected claims 1-36 under the judicially created doctrine of obvious-type double patentable over Claims 1-9 in Zhu et al. Examiner suggests that the conflicting claims are not patentably distinct from each other because it would have been obvious to one skilled in the art at the time the invention was made to include a unipolar or bipolar sensing system in the pacing system to sense, by unipolar or bipolar sensing, evoked responses from the heart using atrial electrodes, ventricular electrodes or can electrodes. In addition to the limitations cited by Examiner, the above rejected claims include the limitation that the sensing means (or circuit) include multiple independent blanking switches corresponding to independent electrodes. Claims 1-9 in Zhu et al do not include nor does Zhu et al teach or suggest a sensing means (or circuit) including multiple independent blanking switches corresponding to independent electrodes. As amended in Applicants’ Response dated February 9, 2000, Claims 1-36 include this limitation. For these reasons and for the reasons discussed elsewhere in this Amendment and Response regarding related rejections, a rejection of claims 1-36 under the judicially created doctrine of obvious-type double patenting over Claims 1-9 in Zhu et al is inapposite.

Accordingly, Applicants respectfully request that the rejection of Claims 1-36 as having been previously claimed in Claims 1-9 in Zhu et al be withdrawn.

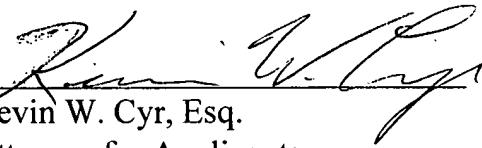
In view of Applicant’s amendments and remarks, the claims are believed to be in condition for allowance. Reconsideration, withdrawal of the rejections, and passage of the case to issue is respectfully requested.

If any additional fees are due in connection with the filing of this paper, please charge the fees to our Deposit Account No. 08-1265. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our deposit account.

Respectfully submitted,

Date: 5/24/00

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